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Notes on some Bats (*Microchiroptera*) from Iraq.

By

David L. Harrison M.A., M.B., B.Ch., F.Z.S.

With 5 figures

During the period from August 1953 until February 1955 the author was able to make a collection of *Microchiroptera* in Iraq. The mammals obtained in Kurdistan, N.Iraq, are being considered in a separate publication. The present paper is intended to record the bats obtained in central and southern Iraq. The species obtained are listed below, with the localities in which they were found and field notes are appended.

Family Emballonuridae.

Taphozous kachhensis magnus Wettstein — Great Tomb Bat.

Specimens obtained between Ramadi and Habbaniya, November 1953, September and October 1954. Habbaniya, November 1953, and Shaiaba in October and December 1954, collected by Dr. M. Skirrow. The species has been recorded from a number of localities along the Tigris and Euphrates Rivers including Amara, Shaiaba, Basra, Ctesiphon Arch and Baghdad (Cheesman 1920, Sanborn 1940). The specimens from Ramadi — Habbaniya appear to be the most northerly recorded in Iraq. Droppings found by the author in a small cave north of Hit, suggest that in fact it occurs even further north.

Family Molossidae.

Tadarida teniotis Rafinesque — European Free-tailed Bat.

One specimen, obtained on the 3rd. November 1953 between Ramadi and Habbaniya, Dulaim Liwa, is the first recorded example of this species in Iraq. (See below for notes on the habitat of this species and also *T.kachhensis* and *A.tridens*).

Family Hipposideridae.

Asellia tridens murrayana Anderson — Trident Leaf-nosed Bat.

Twelve specimens obtained between Ramadi and Habbaniya in November 1953 and Sept. to Nov. 1954. One mummified specimen found by Mr. Keith Jarvis at Fort Ukhadir, south west of Lake Karbala, early in 1954. This species also appear to be well distributed in Iraq. Sanborn (1940) records it from Baghdad and Cheesman (1920) records it from Falluja and Lake Akkar Kuf, near Baghdad.

Family Vespertilionidae.

Eptesicus hingstoni Thomas — Eastern Serotine Bat.

Two specimens from Habbaniya on 23rd. August 1953 and the 12th. Sept. 1954. Three specimens from Basra, 16th. September 1954 and 21st. March 1954 obtained by Mr. M. A. C. Stephenson. In both localities they were dwelling beneath the corrugated iron roofing of the verandahs of buildings. They were also seen flying at dusk in gardens and date groves along the rivers. At Habbaniya it was an uncommon species, only two or three being seen, compared to many hundred White-bordered Pipistrelles. Unlike the Pipistrelles I never saw this species in desert localities.

Sanborn (1940) records it from Baghdad and An Nasariya, Karbala. It was also found at Baghdad and Basra (Cheesman 1920).

Eptesicus nasutus pellucens Thomas — Sind Serotine Bat.

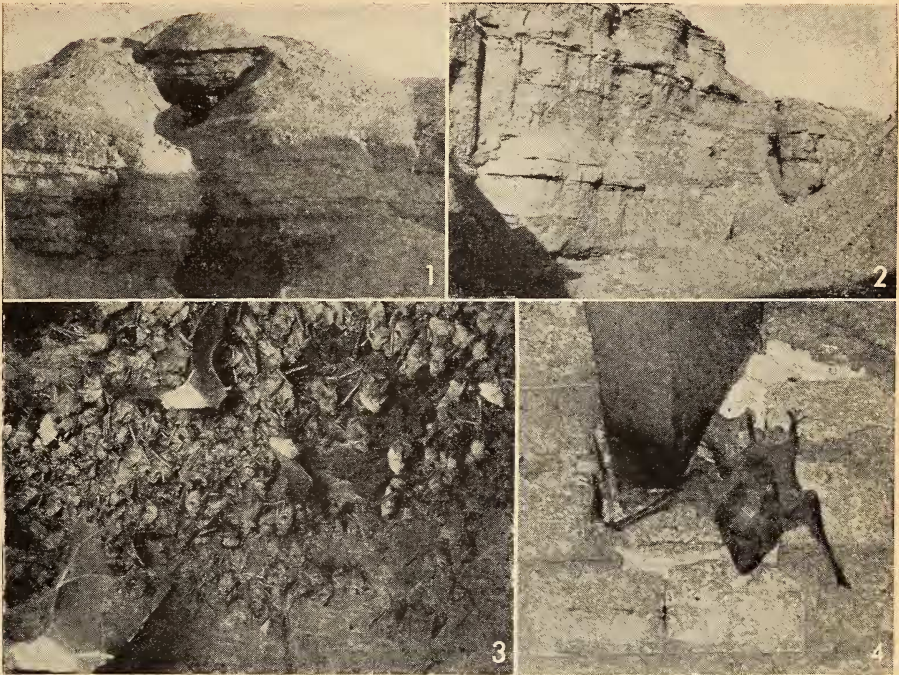
One specimen is in my collection, obtained by Dr. M. Skirrow on the 8th. March 1955 at Shaiaba, S. Iraq. It was shot flying over a sewage farm at dusk.

It appears to be a very rare species in Iraq and may prove to be confined to the southern area of the country. Two specimens, collected by V. S. La Personne, included in the Cox-Cheesman collection and now in the British Museum collection, were obtained at Zubeir on the 2 nd. of March 1921. These do not appear to have been recorded although a doubtful specimen with no skull, from Amara, probably of this species, was mentioned by Cheesman (1920). This very small species of Serotine bat (Forearm in these examples 35.6, 38.2 and 38.5 mms.) is known from Sind, Persia and S. Arabia, where the very small form *E. matschiei* Thomas is considered by Ellerman and Morrison-Scott (1951) to represent the same species.

Pipistrellus kuhlii Kuhl — The White-bordered Pipistrelle.

This species is without doubt the commonest and most widespread bat in Iraq. My series were obtained in the following localities — Dibban near Habbaniya, Habbaniya, Shaiaba, Ramadi Marshes, S. of Amiriya, Ramadi-Habbaniya, Basra, Faluja, Fort Ukhadir (S.W. of Lake Karbala).

The White-bordered Pipistrelle occurs in enormous numbers in some localities and is often to be seen flying out over the desert, although as a rule not at great distances from the rivers. It's favourite roosting sites seem to be crevices in the walls of buildings. They can hardly be said to hibernate in Iraq, although their activity is reduced in the winter, for a number may be seen abroad during warm evenings all through the winter months.



- Fig. (1). Main fissure and entrance to the Bat Cave near Ramadi. Photograph by the author.
- Fig. (2). Crevices in cliff face of a gully near the caves, inhabited by Tomb Bats (*T. kachhensis*). Photograph by the author.
- Fig. (3). Trident Bats (*Asellia tridens murrayana*) in the caves near Ramadi. Photograph by Dr. M. Skirrow.
- Fig. (4). Tomb Bat (*T. kachhensis*) emerging from the roof of a building at Shaiaba. Photograph by Dr. M. Skirrow.

The first three species listed above were obtained at some remarkable caves situated between Ramadi and Habbaniya which seem worthy of special description and discussion.

Between Ramadi and Habbaniya an extensive plateau of desert lies between Lake Habbaniya and the River Euphrates. Along the course of the river there is a belt of level, fertile farmland which extends for about half a mile from the river on the average. At the edge of this fertile belt the desert plateau comes to an abrupt end forming a range of dun coloured hills about forty to fifty feet high. These rounded hills are covered with light sandy soil and their sides are deeply intersected by gullies, no doubt water eroded, which reveal the harder underlying rocky substance. It is in the flanks of these hills, near Ramadi, that there exists a remarkable series of caverns and fissures. These are certainly natural in origin and several extend deep into the hillsides with rounded caverns, passages and fissures reminiscent of the limestone caves of Britain. I formed the opinion that these caves must be of great age, for

one of them contained a side passage, the floor of which was covered to a depth of several feet at least with fragments of rock and chewed bones, which by their brown colour were of considerable antiquity. Many were fragments of the limb bones of Ungulates and the cave had clearly been used as a lair by large Carnivores for many years. Indeed they are still regularly used by desert Foxes, which we several times encountered in the main cavern and fresh footprints of a large Carnivore, probably *Hyaena*, were found outside another cave.

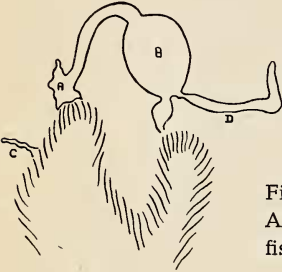


Fig. 5: Plan of the main Bat Cave near Ramady, Iraq. A = Main domed fissure, B = Main cavern. C = Minor fissure in the rock face. D = Bone passage.

The first cave found lies in a gully, concealed from the Ramadi-Habbaniya road. Ascending this gully, a most remarkable rock formation comes into view. A wide deep fissure extends into the stratified face of the hillside and the lower part leads into a cavern, but this entrance is inaccessible, situated about fifteen feet up a vertical rock face. The upper part of the fissure extends right through the top of the hill so that the knoll on the hill top forms a curious lid, with a flat bottom, over the top of the fissure [See Fig. (1)]. A smaller crevice in the rock face to the left extends deeply as a narrow crack into the hillside. Exploring to the right across a sandy shoulder descending from the rock face, which forms a circular arena around the top of the gully, another narrow entrance was found. This leads into a small antechamber of rock and descending a little enters a wide cavern about twenty feet in length by fifteen feet across with a domed roof and with its floor covered with prodigious boulders of rock. At the far end of this chamber a narrow passage leads onwards and curving round opens into the main fissure beneath the dome. A second passage leads to the right from the cavern, which presently turns to the left and apparently terminates in a mass of boulders.

This remarkable cave system proved to be inhabited by hundreds of bats and as a result of fourteen visits to it from autumn 1953 until spring 1955 a number of interesting facts about their habits became clear.

Approaching the cave from the road a very loud squeaking would usually be heard coming from the main fissure beneath the dome [See Fig. (1) and Figure 5. A] and also from the smaller one in the rock face to the left [also visible in Fig. (1) and marked C in Fig. 5]. Beneath both

of these lies a pile of bat guano, clearly belonging to some large species and which is periodically removed by local Arabs for use as a fertiliser. Peering into the crevice C with torches I could just see the large Tomb Bats (*Taphozous kachhensis*) scuttling about in it's depths. A pungent rubbery odour emanated from their lair and surrounded the whole region of the caves, persisting for months after the bats had left. Climbing around the hillside it is possible to ascend under the dome of the main fissure and there another deep crevice is located extending up into the dome for at least twelve feet. In it's depths further Tomb Bats could be seen scuttling sideways and backwards in the crevice to avoid the light. I later found a number of crevices in the cliffs of the neighbouring gullies, which were also inhabited by Tomb Bats, some of them quite near the ground and packed with dense masses of the malodorous creatures. Others, like those shown in Fig. 2 were quite inaccessible in cliff faces. The significant fact emerged that the Tomb Bats were never found in the caverns or passages leading from them but were evidently a crevice dwelling species. Crevices in buildings are also often used, as by those found by Dr. Martin Skirrow at Shaiaba [See Fig. (4)].

As dusk deepens and the hollow in the hillside becomes obscured in darkness a loud squeaking from the fissures announces the awakening of the Tomb Bats and precedes their actual emergence by some minutes. Soon they stream out on swift, narrow wings to fly across the Euphrates valley.

On the 3rd of November 1953 a single European Free-tailed Bat (*Tadarida teniotis*) was shot flying out of the main fissure beneath the dome. No other specimens of it have been seen there since that time and as noted above, it is the first record of the species from Iraq.

Outside the second entrance to the cave only small sized bat guano was found and on entering the main cavern, beyond the antechamber, it's roof was seen to be festooned with a large colony of Trident Bats (*Asellia tridens murraiana*). They practically covered the roof and filled the small cavern (Fig. 5 B) when they took to the wing. [See Fig. (3)]. At dusk the Trident Bats also emerged, at first flying round from one entrance of their cave to the other in the main fissure, and then leaving it altogether to flit about over the desert hills around.

Later on another cavern was found in the hillside a little nearer Habbaniya which possessed a similar domed chamber and this one was also densely packed with Trident bats only. It is therefore clear that the Trident Bat in Iraq is a denizen of caverns and dark ruins, like the ruins of Fort Ukhadir, where Mr. Jarvis found them in subterranean cellars. Tomb Bats and Free-tailed Bats are contrarily crevice dwellers.

Regular visits to these caves throughout the autumn, winter and spring revealed that both crevices and caves are only a summer residence for these several species. The Tomb Bats are usually the first to vanish, a few Trident Bats lingering on until the end of November. Until late

spring this curious place is quite void of bats apart from a few White-bordered Pipistrelles (*P. Kuhlji*) which hawk in the area at dusk and do not, so far as I could ascertain, roost there. The exact date of the bats return is uncertain as I was never present at the crucial time. However a small number of Tomb bats had returned on the 3rd of April 1954, including one juvenile. The departure of the bats during the winter is most curious as the caves seem ideal for hibernation, if these species do indeed hibernate. I was quite unable to discover where they went and there is certainly nowhere near at hand so that I am inclined to the belief that they perform a quite prodigious migration, a matter which would be rewarding for future study. My own observations during the autumn of 1954 certainly suggest that a movement of Tomb Bats takes place through the area. Although it was not possible to make an accurate count it was quite clear that their numbers increased throughout September and October, reaching a peak on the 26th. October when hundreds were present. Thereafter their numbers declined, a few being present on the 10th. of November and none at all from the 24th. of November onwards. The Trident Bats began to diminish in number in mid-September before the main masses of Tomb Bats had appeared, but a small number lingered on after all the Tomb Bats had gone, one or two remaining on the 24th. of November.

During early April the caves were very wet from the winter rains. Clearly masses of water had poured down the gullies, dislodging large slides of earth in places. It may well be that the rains make these caves uninhabitable for the bats during the winter and it is significant that a really heavy downpour occurred on the 23rd. of November 1954 and on the following day no Tomb Bats could be found at all and only one or two Trident Bats. However, the evidence at present available does suggest a migratory passage of Tomb Bats through the area during the late autumn, most likely along the course of the Euphrates. The place where they spend the winter remains a mystery. They certainly occur in S. Iraq during the winter, for Dr. M. Skirrow sent me a specimen collected there during December 1954. The known range of the species is from Malay and Burma through India, and Iraq. It does not seem to have been recorded from Persia.

It is interesting to note that the desert Foxes shared the main cavern with the Trident Bats, using the far end of the cavern as their lair. Other denizens of the caves were Rock Doves, inhabiting the main fissure, and a large snake, about six feet long, was seen on one occasion in the main cavern. Hyeana and Jackal were never actually seen in the caves but their footprints and droppings indicated that they are in the area frequently.

A third larger cavern was later located further from the road and nearer to Ramadi. Unfortunately its bat fauna remains undetermined as it was not found until mid-winter 1954.

Conclusions.

1. A collection of Bats (*Microchiroptera*) from Iraq is listed and includes one new species to the fauna of the country, *Tadarida teniotis*.
2. The Bat Caves near Ramadi are described and the habits of the three species of bats found in them are discussed.

Acknowledgments.

I am most grateful to Dr. Martin Skirrow, who took the photographs of Trident Bats and Tomb Bats (Fig. 3 und 4) and who collected specimens around Shaiaba on my behalf. Mr. M. A. C. Stephenson also assisted greatly with the collection and preparation of specimens, both at Habbaniya and Basra. Mr. Keith Jarvis kindly obtained the specimens from Fort Ukhadir and my friends of the Medical Officers Mess at Habbaniya gave me much assistance in the field work, including Dr. R. E. Partridge, Mr. J. A. McGeoch, Dr. S. Seligman, Dr. E. Heath, Dr. R. H. Oram and Dr. J. Marshall.

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Anschrift des Verf.: Dr. David L. Harrison, Bowerwood House, St. Botolph's Rd. Sevenoaks, Kent, England.